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TEN NEW RODENTS FROM ANGOLA, AFRICA

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Collections made in Angola by two expeditions from the American Museum, the Vernay Angola Expedition, 1925, and the Phipps, Bradley Expedition, 1932 and 1933, contain several apparently new forms of rodents. An account of the mammals of Angola is in progress, based largely on these collections, and more complete discussions of these forms and their relationships are included in it.

We wish to acknowledge our indebtedness to Dr. H. E. Anthony, Curator of Mammals, The American Museum of Natural History, for helpful advice and criticism in the preparation of this report.

Measurements are stated in millimeters and color terms are those of Ridgway, 1912, 'Color standards and nomenclature.'

Aethomys vernayi, new species

Figure 1

TYPE.—No. 85735, Amer. Mus. Nat. Hist., ♂ adult, skin and skull, from Chissonque, 20 km. E. Dande, Angola. Collected by the Vernay Angola Expedition, August 4, 1925.

GENERAL CHARACTERS.—A short-tailed, big-eared rat with long, soft pelage; skull massive, with large tympanic bullae. Hind feet with 5th digit subequal to 1st.

COLORATION.—Upper parts variable, from near sayal brown to near olive-brown; sides much grayer, passing gradually to grayish-white under parts. Tail sparsely covered with bristle-like hairs; fuscous-black above.

SKULL.—Broad and massive; rostrum and zygomata heavy; braincase short and broad. Tympanic bullae larger than in other Angolan species of *Aethomys*.

DENTITION.—Incisors heavy, moderately opisthodont. Molars very large.

MEASUREMENTS.—See table, p. 10.

Aethomys vernayi externally resembles *Thallomys*, but it may be distinguished from that genus by its much shorter fifth digit. Cranially they are quite distinct.

This form is based on the type and one specimen from the type locality. The species is named in honor of Mr. Arthur S. Vernay, the leader and organizer of the Vernay Angola Expedition.

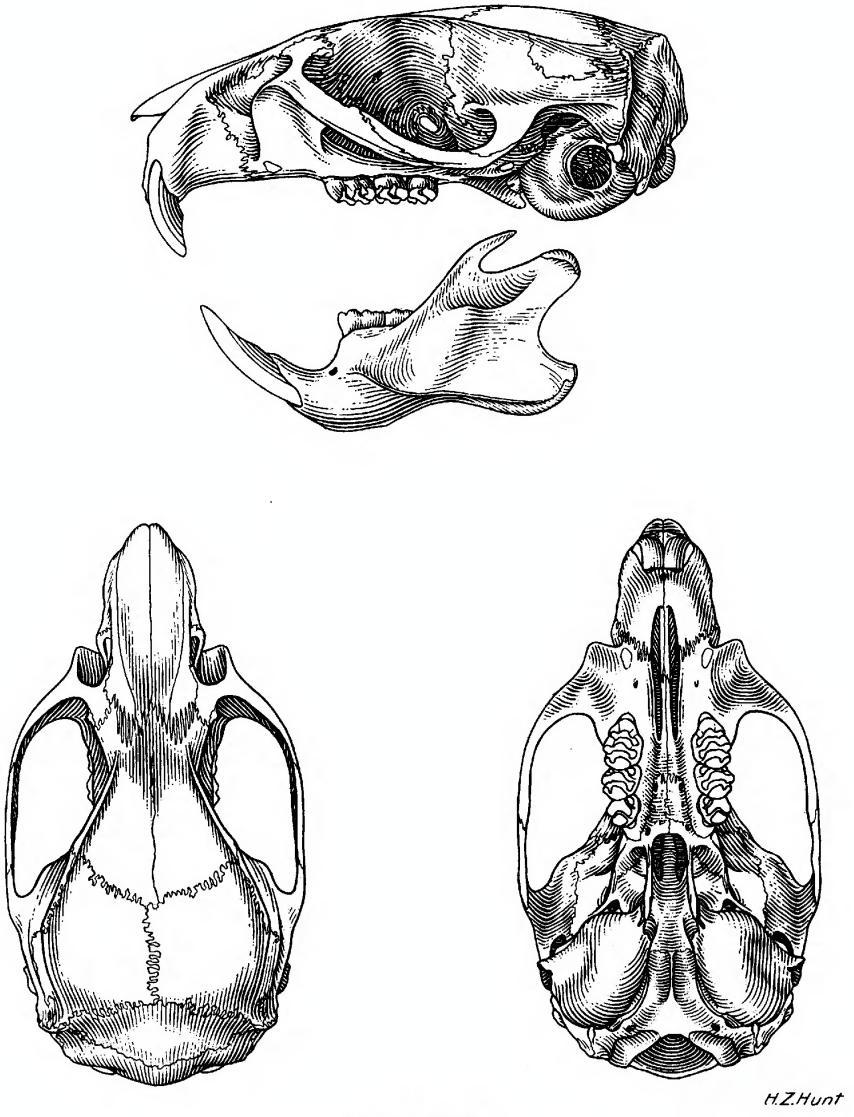


Fig. 1. Skull of *Aethomys vernayi*, n. sp. × 2.

Aethomys avunculus phippsi, new subspecies

Figure 2

TYPE.—No. 87855, Amer. Mus. Nat. Hist., ♂ adult, skin and skull, from Humpata, alt. 6300 ft., Angola. Secured by the Phipps, Bradley Expedition (Mr. Lee S. Bradley, collector, orig. no. 645), December 7, 1932.

GENERAL CHARACTERS.—A dark race of *Aethomys avunculus* Thomas. Mammae (in females) 0–2 = 4 or 1–2 = 6, usually the former.

COLORATION.—Upper parts near cinnamon with heavy black overlay; sides becoming near ochraceous-buff. Pure white midventrally, but rest of under parts with plumbeous bases. Tail above becomes near black at the tip.

SKULL.—Resembles that of *Mastomys*, elongate, slender. Zygomatic arches

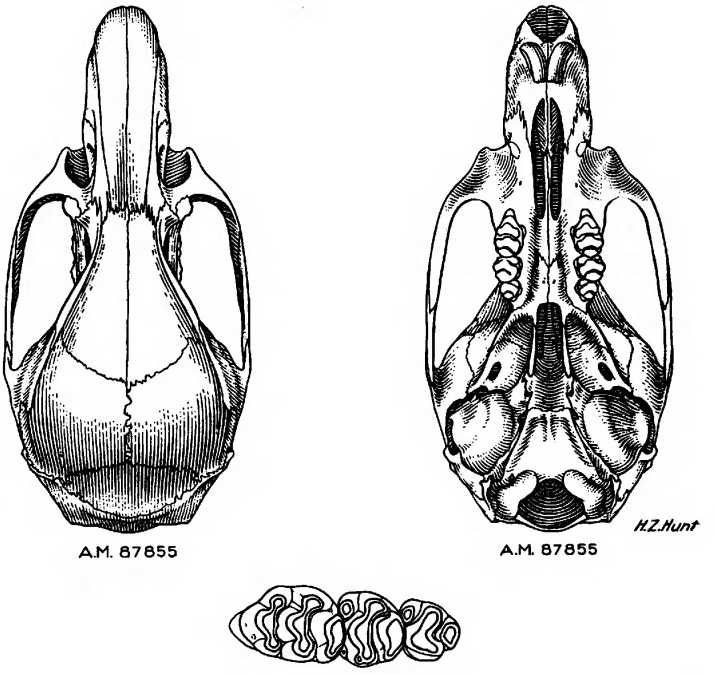


Fig. 2. Skull and dentition of *Aethomys a. phippsi*, n. subsp. × 2.

more widely spreading than in the typical form, interorbital and mastoid regions broader, tympanic bullae and incisive foramina larger.

DENTITION.—Incisors orange, strongly opisthodont; M^1 with four roots, smaller than M^2 and M^3 combined.

MEASUREMENTS.—See table, p. 10.

The race is based on forty-seven specimens from the type locality. It is named in honor of Mr. John H. Phipps, who organized the Phipps, Bradley Expedition to Angola.

Grammomys surdaster angolensis, new subspecies

TYPE.—No. 81947, Amer. Mus. Nat. Hist., ♂ adult, skin and skull, from Chitau, alt. 4930 ft., Angola. Secured by the Phipps, Bradley Expedition (Mr. Lee S. Bradley, collector, orig. no. 47), August 19, 1932.

GENERAL CHARACTERS.—A paler relative of *G. s. callithrix.*

COLORATION.—Back less reddish than in *callithrix,* near cinnamon, lined with black; sides becoming light ochraceous-buff at lower border. Under parts more nearly white, only faintly tinged with ivory-yellow. Feet faintly washed with cinnamon above, rather than cinnamon-buff. Tail darker. A well-marked blackish spot in front of the eye.

SKULL AND DENTITION.—Tympanic bullae larger than in *callithrix;* zygomatic arches and rostrum slightly wider. Molars larger, especially M^3.

MEASUREMENTS.—See table, p. 10.

This genus was not previously known to occur in Angola, and only one specimen, in addition to the type, was secured.

Dendromus mesomelas vernayi, new subspecies

TYPE.—No. 85909, Amer. Mus. Nat. Hist., ♀ adult, skin and skull, from Chitau, alt. 4930 ft., Angola. Secured by the Vernay Angola Expedition (Mr. Herbert Lang, collector, orig. no. 449), August 4, 1925.

GENERAL CHARACTERS.—A silky-haired *Dendromus* with broad dorsal stripe and buffy under parts; size smaller than *D. m. major* St. Leger.

COLORATION.—Upper parts between ochraceous-tawny and cinnamon-brown (about 14′ j); mid-dorsal stripe wide. Under parts not set off from upper parts but paler, near pinkish buff (about 17′′e); throat usually with area of pure white. Tail bicolored, drab above, whitish below, finely haired. Feet near pinkish buff above. Hair of cheek, shoulder, and inside of ear near orange-cinnamon, outside of ear near bister.

SKULL AND DENTITION.—Rostrum short and heavy. Incisors orange, deeply grooved, fairly heavy; M^1 larger than in *D. m. nyasae.*

MEASUREMENTS.—See table, p. 10.

This race is based on the type and twelve specimens from the type locality.

Steatomys minutus leucorhynchus, new subspecies

TYPE.—No. 85846, Amer. Mus. Nat. Hist., ♂ adult, skin and skull, from Capelongo, Huilla district, Angola. Secured by the Vernay Angola Expedition (Mr. Herbert Lang, collector, orig. no. 304), July 21, 1925.

GENERAL CHARACTERS.—A pale race of *S. minutus* Thomas and Wroughton.

COLORATION.—Upper parts between wood brown and fawn color (about 15′′′a); sides and cheeks slightly paler. Under parts pure white, this including lower face, medial sides of legs, feet, and under side of tail; rhinarium and most of mystacial pad also white. Dorsal tail stripe near army brown; hairs of outer side of ear from natal brown to nearly fuscous.

SKULL AND DENTITION.—Agree closely with *S. minutus.*

MEASUREMENTS.—See table, p. 10.

This race is based on the type and three specimens from Capelongo.

Steatomys angolensis, new species

TYPE.—No. 88367, Amer. Mus. Nat. Hist., ♀ adult, skin and skull, from Chitau, alt. 4930 ft., Angola. Secured by the Phipps, Bradley Expedition (Mr. Lee S. Bradley, collector, orig. no. 964), March 6, 1933.

GENERAL CHARACTERS.—A small, dark gray *Steatomys*, with large ears; externally resembling *Malocothrix*, but hind feet 5-toed, with naked soles.

COLORATION.—Upper parts between hair brown and fuscous (about 15′′′′j); somewhat paler on sides of body and head. Under parts pure white, this including fore legs, medial sides of hind legs, feet, lower face and tip of muzzle. Tail drab above, whitish below. Ears colored like back, with narrow whitish margins, a conspicuous white spot at posterior base of each.

SKULL.—Smaller than in *S. bocagei* Thomas, but elongate; rostrum weaker, nasals appreciably narrower, tympanic bullae more inflated.

DENTITION.—Incisors opisthodont; molars smaller than in *S. bocagei.*

MEASUREMENTS.—See table, p.10.

Only a single specimen of this small mouse was secured.

Steatomys angolensis bradleyi, new subspecies

TYPE.—No. 87873, Amer. Mus. Nat. Hist., ♂ adult, skin and skull (latter injured), from Humpata, alt. 6300 ft., Angola. Secured by the Phipps, Bradley Expedition (Mr. Lee S. Bradley, collector, orig. no. 580), November 29, 1932.

GENERAL CHARACTERS.—A pale race of *S. angolensis* (see above).

COLORATION.—Upper parts between hair brown and cinnamon-drab (about 15′′′′h); rump brighter and sides paler, with an overlay of pinkish cinnamon. Under parts pure white as in typical race. Ears, color of back; tail whitish with dorsal stripe of drab.

SKULL AND DENTITION.—Skull and teeth agree closely with those of *S. a. angolensis.*

MEASUREMENTS.—See table, p. 10.

This race, named in honor of Mr. Lee S. Bradley who collected the types of this and several other forms of rodents, is known only from the type specimen.

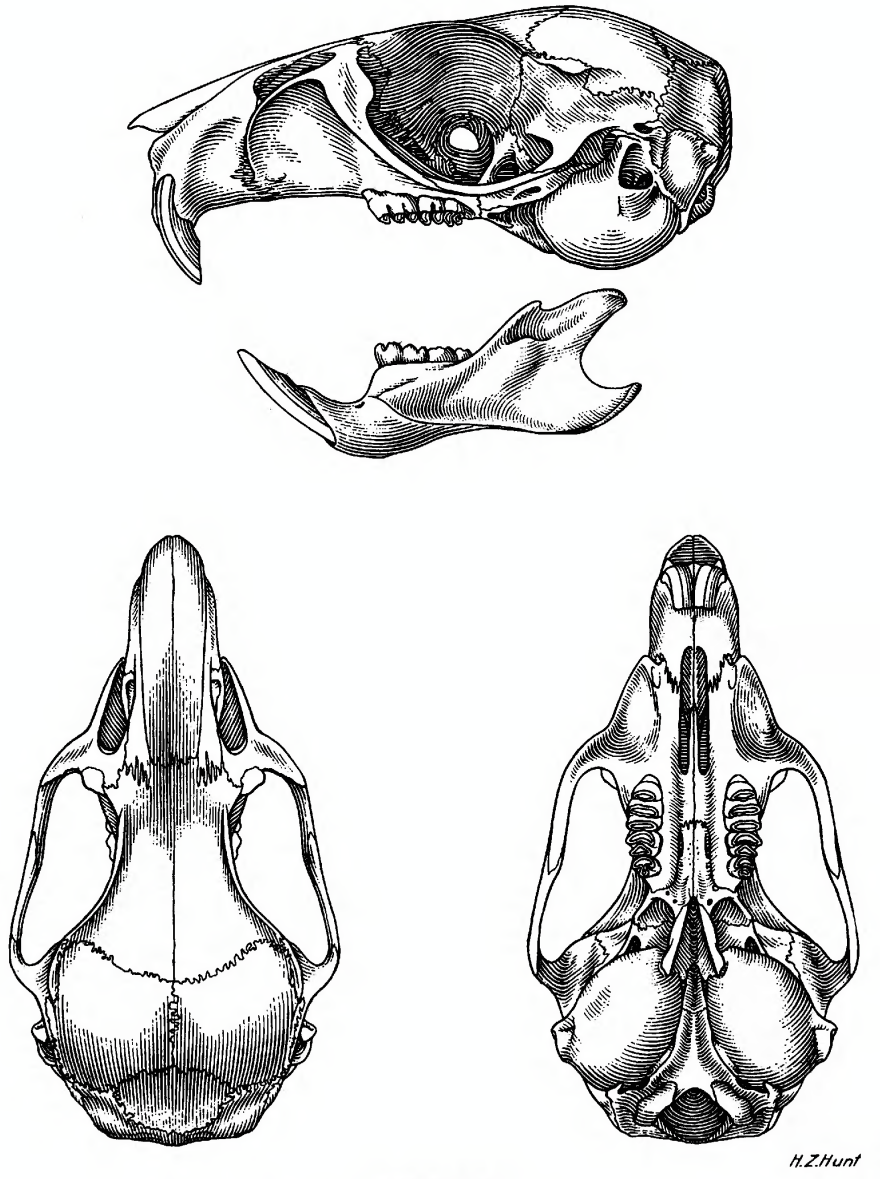
Taterona humpatensis, new species

Figure 3

TYPE.—No. 87952, Amer. Mus. Nat. Hist., ♀ adult, skin and skull, from Humpata, alt. 6300 ft., Angola. Secured by the Phipps, Bradley Expedition (Mr. Lee S. Bradley, collector, orig. no. 610), December 2, 1932.

GENERAL CHARACTERS.—A large species like *T. valida* but paler, with shorter skull and buffy under parts. Hind feet longer and more slender; pelage longer. Mammae 1–2 = 6, rather than 2–2 = 8 as in *T. valida.*

COLORATION.—Upper parts between natal brown and buffy brown, the sides with numerous white hairs intermixed. A whitish region between eye and ear; end of muzzle blackish brown and a black area below the eye. Under parts not set off sharply from upper parts; paler than tilleul-buff, the basal plumbeous showing through. Fore feet pinkish buff above, as are hind feet except toes.



A.M. 87952

Fig. 3. Skull of *Taterona humpatensis*, n. sp. × 2.

SKULL.—Shorter, lower and more convex dorsally than in *T. valida*, with less tapering nasals.

DENTITION.—Incisors more deeply grooved and molars decidedly smaller than in *T. valida*.

MEASUREMENTS.—See table, p. 10.

This species is based on the type and six specimens from the type locality.

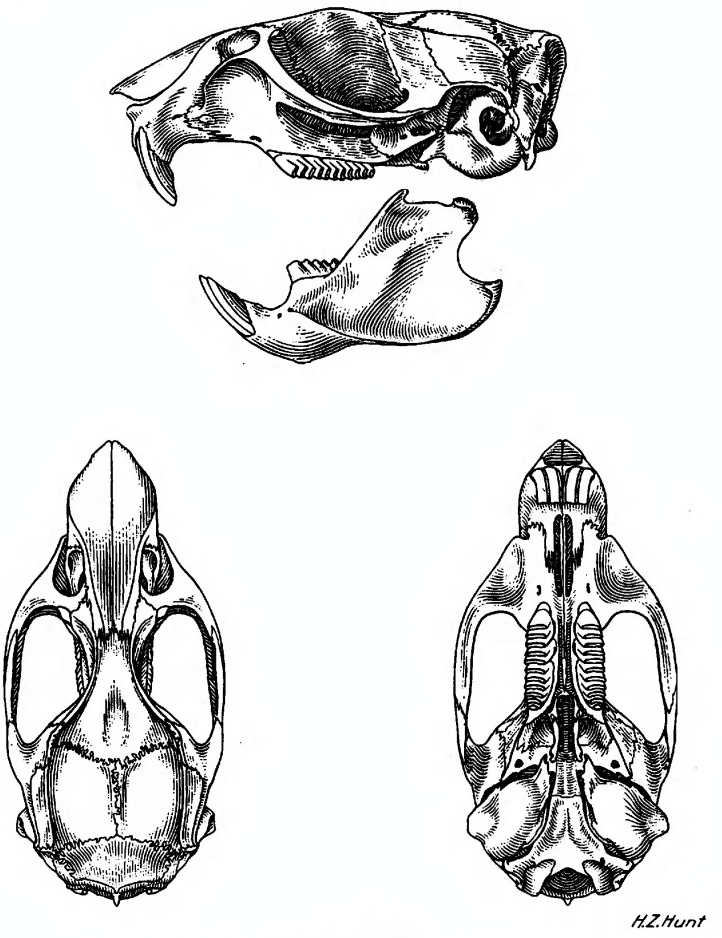


Fig. 4. Skull of *Otomys cuanzensis*, n. sp. × 1 1/3.

Otomys cuanzensis, new species

Figure 4

TYPE.—No. 85841, Amer. Mus. Nat. Hist., ♂ adult, skin and skull, from Chitau, alt. 4930 ft., Angola. Secured by the Vernay Angola Expedition (Mr. Her-

bert Lang, collector, orig. no. 410), August 4, 1925.

GENERAL CHARACTERS.—A brownish colored *Otomys;* skull with interparietal and braincase wider than in *O. i. maximus* Roberts.

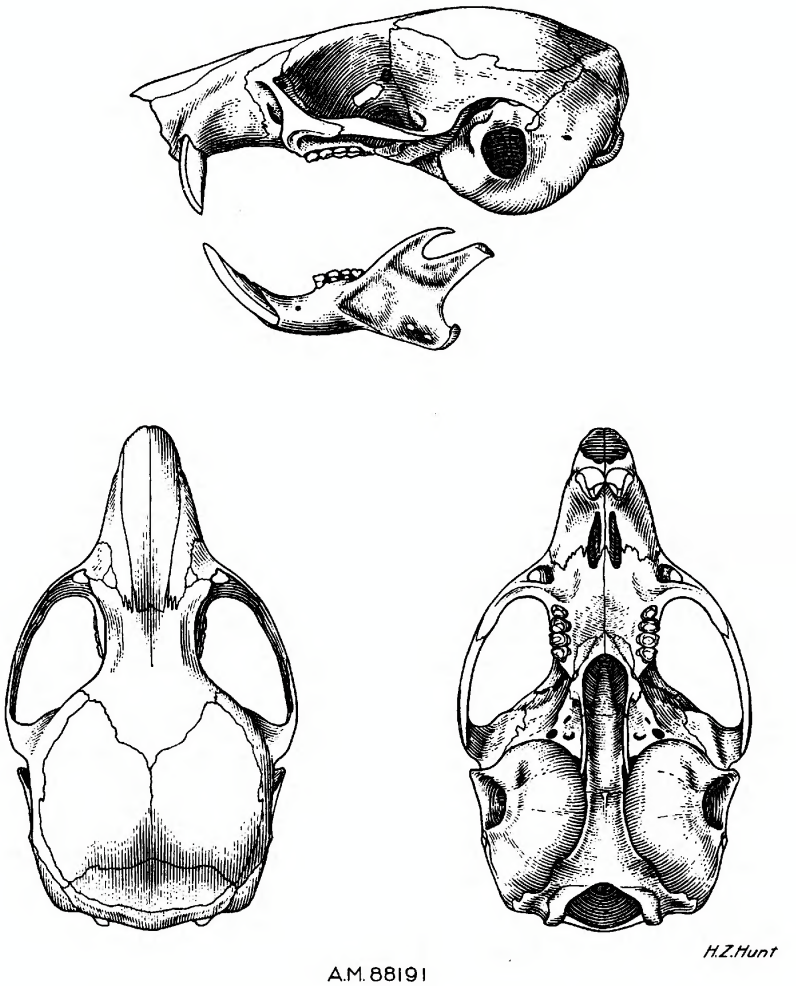


Fig. 5. Skull of *Claviglis a. cuanzensis*, n. subsp. × $2^{2}/_{5}$.

COLORATION.—Upper parts near sayal brown, heavily mixed with iridescent black, general color near bister. Under parts paler, deep neutral gray overlaid with cinnamon-buff or paler. Tail with black dorsal stripe, clothed with cinnamon hairs below and on sides.

SKULL AND DENTITION.—Like that of *O. i. maximus* but braincase and interparietal considerably wider, 6.1 × 11.0 (6.2 × 7.5 in *maximus*); temporal ridges

farther apart. Auditory meatus thickened anterodorsally. Molars weaker than in *maximus*.

MEASUREMENTS.—See table, p. 10.

This species is based on eight specimens from the type locality and one from Nambe, Cassonque. Its range probably includes the drainage of the Cuanza River, northern Angola. The differences between *cuanzensis* and *maximus* are definite although small, so it seems best at present to regard the new form as a separate species.

Claviglis ansorgei cuanzensis, new subspecies

Figure 5

TYPE.—No. 88191, Amer. Mus. Nat. Hist., ♀ adult, skin and skull, from Chitau, alt. 4930 ft., Angola. Secured by the Phipps, Bradley Expedition (Mr. Lee S. Bradley, collector, orig. no. 713), February 12, 1933.

GENERAL CHARACTERS.—A small, drab-colored dormouse, with convex skull and small bullae.

COLORATION.—Richer than in *C. a. ansorgei;* upper parts between hair brown and cinnamon-drab, paler on shoulders and sides, near light drab on forehead. Under parts whitish, overlying dark plumbeous. Prominent black mask-like marking on face. Tail above between benzo brown and fuscous, mixed with whitish. Feet white, occasionally with gray markings dorsally.

SKULL.—Agrees closely with that of *C. a. ansorgei.*

MEASUREMENTS.—See table, p. 10.

This race is based on thirty-three specimens from the type locality. One specimen from 20 km. and one from 35 km. east of Dande are also referred to it.

	Sex	Head and body	Tail	Hind foot (c.u.)	Ear (from notch)	Occipitonasal length	Basilar length	Nasal length	Diastema	Zygomatic breadth	Interorbital breadth	Mastoid breadth	Length incisive foramina	Length bulla	Length maxillary alveoli	Width M[1]
Aethomys vernayi Type: A.M.N.H. No. 85735 Chissonque, Angola	♂	169	117	27[1]	21	35.4	29.5	13.6	9.7	18.8	5.4	15.3	8.3	7.7	6.8	2.4
Aethomys a. phippsi Type: A.M.N.H. No. 87855 Humpata, Angola	♂	131	156	28		32.6	24.9	13.6	8.0	15.8	4.4	13.5	7.6	5.1	5.8	1.9
Grammomys s. angolensis Type: A.M.N.H. No. 81947 Chitau, Angola.	♂	109	166	23.5[1]		29.0	21.6	10.6	7.0	14.6	4.5	11.6	6.2	5.0	4.7	1.5
Dendromus m. vernayi Type: A.M.N.H. No. 85909 Chitau, Angola	♀	77	86	20	13	22.1	17.2	8.0	5.7	11.9	3.1	9.2	4.4	4.6	3.8	1.2
Steatomys m. leucorhynchus Type: A.M.N.H. No. 85846 Capelongo, Angola	♂	85	45	17	14	23.5	20.5	9.3	6.4	12.1	3.9	11.1	4.5	5.9	4.1	1.4
Steatomys angolensis Type: A.M.N.H. No. 88367 Chitau, Angola	♀	91	59	18	16[1]	25.2	19.5	9.9	6.1	12.0	3.9	11.2	5.3	6.1	4.0	1.3
Steatomys a. bradleyi Type: A.M.N.H. No. 87873 Humpata, Angola	♂	92	55	17	16.5[1]	26.3	20.2	10.8	6.6			11.6	5.4	6.0	4.2	1.3
Taterona humpatensis Type: A.M.N.H. No. 87952 Humpata, Angola	♀	147	170	38		38.4	30.2	15.5	10.7	20.7	6.8	14.9	7.3	10.0	6.5	2.4
Otomys cuanzensis Type: A.M.N.H. No. 85841 Chitau, Angola	♂	178	109	33	22	43.6	34.5	19.2	9.7	21.1	4.6	15.7	7.7	8.2	9.8	2.5
Claviglis a. cuanzensis Type: A.M.N.H. No. 88191 Chitau, Angola	♀	87	62	16	12.7	23.8	18.5	9.0	5.1	13.7	3.8	11.8	2.9	7.5	2.8	

[1] Remeasured from dry skin.